REMARKS

By the above actions, a minor editorial correction has been made to claim 8 and a new claim 15 has been added. Additionally, appended hereto is a copy of claim 8 which has been annotated with the reference numbers used in the specification and drawings to identify the various elements recited in the claims. In view of these actions and the following remarks, reconsideration of this application is requested.

All of claims 8-14 were rejected by the Examiner under 35 USC § 103 as being unpatentable over the combined teachings of the Tajima et al. (hereafter, "Tajima") and Beckmann et al. (hereafter, "Beckmann"). However, this rejection is inappropriate for the following reasons.

First, for the Examiner's assistance, as noted above, appended hereto is a copy of claim 8 which has been annotated with the reference numbers used in the specification and drawings to identify the various elements recited in the claims. Thus, it should be clear to the Examiner that, while the combustion gas and oxidizer channels 6, 9, run along opposite surfaces of each fuel cell plate, the combustion gas supply and discharge channels 4, 5, extend vertically through the stack of fuel cells, i.e., perpendicular to the combustion gas and oxidizer channels 6, 9.

As acknowledged by the Examiner, Tajima does not teach combustion gas supply and discharge channels that extend through the stack of fuel cells in a manner comparable to the combustion gas supply and discharge channels 4, 5, of the present application. For this reason, the Examiner cites the Beckmann reference as supposedly making it obvious to provide Tajima fuel cell with combustion gas supply and discharge channels as claimed. However, the disclosures of Tajima and Beckmann are incompatible with each other and even if combinable would not lead to the claimed invention for the following reasons.

Tajima provides cooling air for the purpose of maintaining a substantially even cell temperature (see, col. 1, lines 65-67 and col. 2, lines 27-46). The arrangement of channels for cooling air, reactant gas, and fuel gas are shown, e.g., in Figs. 7 and 8, and the goal of achieving a substantially even cell temperature could not be achieved if interior supply and discharge channels were to run through the entire stack. For example, if an interior supply channel were to pass through the structure shown in Fig. 8 of Tajima from top to bottom, the channel would pass through all of the layers of the fuel cell stack and would greatly interfere

with the flow patterns of the reactant and fuel gases as well as of the cooling air. Furthermore, if these flow patterns were rearranged to accommodate interior supply and discharge channels running through the stack, the cooling air would have to flow around such channels, leading to a substantially lower cooling efficiency and a decrease in fuel cell performance. In this regard, it is noted that MPEP §§ 2143.01V and VI note that a proposed modification "cannot render the prior art unsatisfactory for its intended purpose" or "change the principle of operation of a reference," and clearly that is the result of the modification proposed by the Examiner. Furthermore, MPEP §2143.01(IV) that it is improper for an examiner to sustain a 103 rejection by mere conclusory statements; "instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness." Merely stating that it is known to incorporate internal supply and outlet channels as stated at the top of page 4 of the action is a conclusion without any meaningful reason since what is claimed is not internal supply and outlet channels placed in some generic manner but in a specific orientation and since no logical reasoning is provided as to how or why such would be done to Tajima's fuel cell when there is no expressed need for same and given the effect it would have his cooling air circulation and goal of uniform cooling.

However, even if Tajima's fuel cell were to be given interior supply and discharge channels running through the stack, it would still not meet claim 8 since the fuel gas channels 51 run perpendicular to the reactant gas channels 54, not parallel thereto. That is, claim 8 specifies that "an oxidizer guide is formed which **runs in the direction of the lengthwise channels** and which is open to sides of the fuel cell stack for supplying of the oxidizer," and "the lengthwise channels" are those specified earlier in the claim in the recitation of the fact that a "plurality parallel lengthwise channels are provided for routing of the combustion gas."

As such, it is submitted that the combination proposed by the Examiner would not have been obvious to one of ordinary skill and even if made would not have resulted in the claimed invention. Therefore, withdrawal of the outstanding rejection based upon the Tajima and Beckmann references is in order and is hereby requested.

Therefore, in the absence of new and more relevant prior art being discovered, this application should now be in condition for allowance and action to that effect is requested. However, while it is believed that this application should now be in condition for allowance,

in the event that any issues should remain, or any new issues arise, after consideration of this response which could be addressed through discussions with the undersigned, then the Examiner is requested to contact the undersigned by telephone for the purpose of resolving any such issue and thereby facilitating prompt approval of this application.

Respectfully submitted,

By: _____
David S. Safran
Registration No. 27,997

Customer No. 25570

Roberts Mlotkowski Safran & Cole, P.C
PO Box 10064
McLean, VA 22102

Direct Telephone: (703) 584-3273

DSS:kmm

8. (Currently Amended) Fuel cell stack, comprising:

a plurality of fuel cell elements (2) and

a plurality of separating plates (3), a respective one of the separating plates being located between a respective pair of fuel cell elements,

at least one inside supply channel (4) being provided to supply a combustion gas and at least one inside discharge channel (5) being provided to discharge an exhaust gas, said channels [[extends]] extending in a direction in which the fuel cell elements and separating plates are stacked,

a supply of combustion gas (13) on a first side of the fuel cell elements and a supply of oxidizer (15) on an opposite side of the fuel cell elements,

wherein, on the first side of the fuel cell elements:

- a plurality parallel lengthwise channels (6) are provided for routing of the combustion gas,
- a distributor zone (7) which connects the supply channel (4) to first ends of the lengthwise channels (6), and
- a collecting zone (8) which connects the discharge channel to second ends of the lengthwise channels, and

wherein, on the second side of the fuel cell elements, an oxidizer guide (9) is formed which runs in the direction of the lengthwise channels and which is open to sides of the fuel cell stack for supplying of the oxidizer.